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10/757,455	01/15/2004	Khiem Le	39700-783001US/NC37129US	5064
64046 7590 08/05/2009 MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C. ONE FINANCIAL CENTER BOSTON, MA 02111				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/757,455

Applicant(s)

LE, KHIEM

Examiner

UMAR CHEEMA

Art Unit

2444

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is response to the Amendment filed on 03/30/2009. Claims 1-26 are pending in this action.

Response to Arguments

2. Applicant's arguments with respect to claims 1-26 have been considered but they are not persuasive. Applicant with respect to claims 1, 6, 15, 19, and 22-26 argues that none of the cited references teach or suggest, "based on a second algorithm configured to determine whether a compressed packet is to be used for the updating of the compression history." and further none of the cited references teach or suggest, "singling from the compression device to a decompressing device such that the decompressing device knows which of the packets out of the packets sent are to be included in a compression history" as cited in claims 6 and 26. Applicant's arguments have been fully considered but they are not persuasive. Examiner would like to further clarify cited references teach or suggest limitations such as, "based on a second algorithm configured to determine whether a compressed packet is to be used for the updating of the compression history [see Jonsson: abstract, lines 20-33, col. 11, lines 10-19; packet communication that utilize header compression/decompression, compression efficiency description and context updating between first and second packet communication station; Banerji: par. 0010-0011, 0025-0029, figures 3-6 and the description related to these figures; compression algorithm that can exploit data history from the beginning of each file; and McBride: abstract, col. 2-line 58-col. 3, line 26;

figures 2-3, 5-7 and details associated]", and "singling from the compression device to a decompressing device such that the decompressing device knows which of the packets out of the packets sent are to be included in a compression history [see Jonsson: figure 2 and details associated, col. 4, lines 41-49; Banerji: par. 0010-0011, 0025-0029, figures 3-6 and the description related to these figures; compression algorithm that can exploit data history from the beginning of each file; and McBride: abstract, col. 2-line 58-col. 3, line 26; figures 2-3, 5-7 and details associated]." Thus it is Examiner position that cited references teach or suggests each and every limitation of claims 1-26 and therefore 35 U.S.C 103(a) rejection is proper. Examiner noted that Applicant appears to assert that neither references individually teaches these aspects of claims 1-26. In response to the applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. see *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al (Jonsson) (US Patent # 6,970,476) in view of Banerji et al (Banerji) (US 2003/0012278) and further in view of McBride et al (McBride) (US 6,151,627).
4. Regarding claim 1 and 25, Jonsson discloses substantially the invention as claimed a method and a computer readable program, comprising: selectively updating a compression history at a compressor, based on a first algorithm configured to determine whether a packet is to be compressed, and based on a second algorithm configured to determine whether a compressed packet is to be used for the updating of the compression history (see col. 11, lines 10-19; context updating between first and second packet communication station).
5. Jonsson substantially discloses the invention as claimed but does not explicitly disclose wherein said first and second algorithms configured to determine whether a packet is to be compressed and compressed packet is to be used for the updating of the compression history. However in the same field of invention Banerji-McBride discloses wherein said first and second algorithms configured to determine whether a packet is to be compressed and compressed packet is to be used for the updating of the compression history (see Banerji: par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file; and McBride: abstract, col. 2-line 58-col. 3, line 26; figures 2-3, 5-7 and details associated).

6. It would have been obvious to one of ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson, Banerji and McBride for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data values tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

7. Regarding claim 2, Jonsson-Banerji disclose the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a decompressor by using transmission control protocol, wherein the compressor monitors an acknowledgment signaling of a transmission control protocol receiver (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0010-0011).

8. Regarding claim 3, Jonsson-Banerji disclose the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a decompressor by using a feedback between the compressor and the decompressor (see Jonsson: col. 10, lines 5-9; Banerji: see par. 0010-0011).

9. Regarding claim 4, Jonsson-Banerji disclose the method according to claim 2, further comprising: enabling the compressor to safely infer a subset of a first context at the decompressor by monitoring the transmission control protocol acknowledgment signaling, wherein the subset is used as a second context for compression (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0035).

10. Regarding claim 5, Jonsson-Banerji disclose the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a

decompressor by combining use of transmission control protocol, wherein the compressor monitors an acknowledgment signaling of a transmission control protocol receiver, with use of a feedback between the compressor and the decompressor (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0035).

11. Regarding claim 6 and 26, Jonsson discloses substantially the invention as claimed a method and a computer readable program, comprising: using a first algorithm in conjunction with a compressing device to decide if a current packet should be compressed; using a second algorithm in conjunction with the compressing device to decide which packets out of packets sent compressed are to be used to update a buffer of the compressing device (see col. 11, lines 10-19; context updating between first and second packet communication station); and signaling from the compressing device to a decompressing device such that the decompressing device knows which of the packets out of the packets sent are to be included in a compression history (see figure 2, col. 4, lines 41-49).

12. Jonsson substantially discloses the invention as claimed but does not explicitly disclose wherein said compression history and first and second algorithm in conjunction with a compression device. However in the same field of invention Banerji-McBride discloses wherein said compression history and first and second algorithm in conjunction with a compression device (see Banerji: par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file; McBride: abstract, col. 2-line 58-col. 3, line 26; figures 2-3, 5-7 and details associated).

13. It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson, Banerji and McBride for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

14. Regarding claim 7, the limitations of this claim has already been addressed (see claim 2 above).

15. Regarding claim 8, the limitations of this claim has already been addressed (see claim 4 above).

16. Regarding claim 9, the limitations of this claim has already been addressed (see claim 3 above).

17. Regarding claim 10, the limitations of this claim has already been addressed (see claim 5 above).

18. Regarding claim 11, Jonsson discloses substantially the invention as claimed above an apparatus, comprising: processor configured to update a compression history selectively, the processor having implemented and being configured to process a first algorithm related to whether a packet shall be compressed, and a second algorithm related to whether a compressed packet shall be used for an update of the compression history (see col. 11, lines 10-19; context updating between first and second packet communication station).

19. Jonsson does not explicitly disclose wherein said compression history and first and second algorithm for determining whether a packet shall be compressed and whether compressed packet shall be used for update of the compression history.

However in the same field of invention Banerji-McBride discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed and whether compressed packet shall be used for update of the compression history (see Banerji: par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file McBride: abstract, col. 2-line 58-col. 3, line 26; figures 2-3, 5-7 and details associated).

20. It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson, Banerji, and McBride for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

21. Regarding claim 12, Jonsson-Banerji disclose apparatus according to claim 11, further comprising: monitor configured to monitor an acknowledgment signaling of a transmission control protocol receiver, wherein the monitor is operably connected to the processor (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0010-0011).

22. Regarding claim 13, Jonsson-Banerji disclose the apparatus according to claim 12, wherein said monitor is configured to be enabled to safely infer a subset of a first

context at a decompressor by monitoring transmission control protocol acknowledgment signaling, wherein the subset is used as a second context for compression (see Jonsson: col. 2, lines 35-40, col. 7, lines 20-25, figure 2; Banerji: see par. 0010-0011).

23. Regarding claim 14, Jonsson-Banerji disclose the apparatus according to claim 11, further comprising: establisher configured to establish a feedback between the compression device and a decompression device, wherein the establisher is operably connected to the processor (see Jonsson: col. 10, lines 5-9, col. 7, lines 20-25; Banerji: see par. 0010-0011).

24. Regarding claim 15, Jonsson substantially discloses the invention as claimed an apparatus, comprising: a transmitter configured to signal to a decompression device which of a first set of packets are to be included in a compression history, the transmitter having implemented and processing a first algorithm used to decide if the current packet should be compressed and (see figure 2, col. 4, lines 41-49); processor configured to have implemented and to process a second algorithm, wherein the second algorithm is used to determine which of a second set of packets out of a third set of packets sent compressed are to be used to update a buffer, wherein the processor is operably connected to the transmitter (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

25. Jonsson substantially discloses the invention but does not explicitly discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed and whether compressed packet shall be used for update of the compression history. However in the same field of invention Banerji-

McBride discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed and whether compressed packet shall be used for update of the compression history (see Banerji: par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file McBride: abstract, col. 2-line 58-col. 3, line 26; figures 2-3, 5-7 and details associated).

26. It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson, Banerji, and McBride for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

27. Regarding claim 16, the limitations of this claim has already been addressed (see claim 12 above).

28. Regarding claim 17, the limitations of this claim has already been addressed (see claim 13 above).

29. Regarding claim 18, the limitations of this claim has already been addressed (see claim 14 above).

30. Regarding claim 19, Jonsson substantially discloses the invention as claimed an apparatus, comprising: a receiver configured to receive signals from a compression device indicating which packets are to be included in a compression history (see col. 6, lines 58-65, figure 6; receiving context updating request); and a processor configured to process a packet sequence number for updating a buffer in synchronization with the

compression device, wherein the processor is operably connected to the receiver (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

31. Jonsson substantially discloses the invention as claimed but does not explicitly disclose wherein said compression history. However in the same field of invention Banerji discloses wherein said compression history (see Banerji: par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file; McBride: abstract, col. 2-line 58-col. 3, line 26; figures 2-3, 5-7 and details associated).

32. It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson, Banerji, and McBride for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

33. Regarding claim 20, Jonsson-Banerji disclose the apparatus according to claim 19, further comprising: forwarding unit configured to forward an acknowledgment signaling of a transmission control protocol receiver to the compression device, wherein the forwarding unit is operably connected to the receiver (see Jonsson: figure 6, col. 6, lines 53-60, col. 2, lines 35-40; Banerji: see par. 0010-0011).

34. Regarding claim 21, Jonsson-Banerji disclose the apparatus according to claim 19, further comprising: an establishing unit configured to establish a feedback between the compression device and the decompression device, wherein the establishing means

is operably connected to the receiver (see Jonsson: col. 10, lines 5-9, col. 7, lines 20-25; Banerji: see par. 0010-0011).

35. Regarding claim 22, Jonsson discloses substantially the invention as claimed an apparatus, comprising: updating means for updating a compression history selectively, the updating means for implementing and processing a first algorithm related to whether a packet shall be compressed, and a second algorithm related to whether a compressed packet shall be used for an update of the compression history (see col. 11, lines 10-19, col. 6, lines 37-42; context updating between first and second packet communication station); and monitoring means operably connected to the updating means for monitoring an acknowledgement signaling.

36. Jonsson substantially discloses the invention as claimed but does not explicitly disclose wherein said a processor, compression history and first and second algorithm for determining whether a packet shall be compressed and monitoring means operably connected to the updating means for monitoring an acknowledgement signaling. However in the same field of invention Banerji-McBride discloses wherein said a processor (see Banerji: par. 0047; a processor 603, figure 6), compression history and first and second algorithm for determining whether a packet shall be compressed and monitoring means operably connected to the updating means for monitoring an acknowledgement signaling (see Banerji: par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file; McBride: abstract, col. 2-line 58-col. 3, line 26; figures 2-3, 5-7 and details associated).

37. It would have been obvious to one of ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson, Banerji, and McBride for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data values tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

38. Regarding claim 23, Jonsson discloses substantially the invention as claimed an apparatus, comprising: signaling means for signaling a decompression device which of a first set of packets are to be included in the compression history, the signaling means having implemented and processing a first algorithm used to decide if the current packet should be compressed (see figure 2, col. 4, lines 41-49); and processor means for having implementing and processing a second algorithm, wherein the second algorithm is used to determine which of a second set of packets out of a third set of packets sent compressed are to be used to update the buffer, wherein processor is operably connected to the means for signaling (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

39. Jonsson substantially discloses the invention as claimed but does not explicitly disclose wherein said compression history and first and second algorithm for determining whether a packet shall be compressed. However in the same field of invention Banerji-McBride discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed (see Banerji: par. 0010-0011; compression algorithm that can exploit data history from the beginning

of each file; McBride: abstract, col. 2-line 58-col. 3, line 26; figures 2-3, 5-7 and details associated).

40. It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson, Banerji, and McBride for compression efficiency in a packet data communication system Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

41. Regarding claim 24, Jonsson discloses substantially the invention as claimed an apparatus, comprising: receiving means for receiving signals from a compression device indicating which packets are to be included in a compression history (see col. 6, lines 58-65, figure 6; receiving context updating request); processing means for processing a packet sequence number for updating the buffer in synchronization with the compression device, wherein the processor is operably connected to the receiving means (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

42. Jonsson substantially discloses the invention as claimed but does not explicitly discloses wherein said receiving signal from a compression device indicating which packets are to be included in a compression history. However in the same field of invention Banerji-McBride discloses wherein said receiving signal from a compression device indicating which packets are to be included in a compression history (see Banerji: par. 0010-0011; compression algorithm that can exploit data history from the

beginning of each file; McBride: abstract, col. 2-line 58-col. 3, line 26; figures 2-3, 5-7 and details associated).

43. It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson, Banerji, and McBride for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **UMAR CHEEMA** whose telephone number is (571)270-3037. The examiner can normally be reached on M-F 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Jr. Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/U. C./
Examiner, Art Unit 2444

/William C. Vaughn, Jr./
Supervisory Patent Examiner, Art Unit 2444